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Service Learning: An Investigation into its Viability as a Strategy to Achieve Institutional Goals

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Abstract

Research Service-Learning (RSL) is the delivery of a service to the community partners within the context of an educational program of study. Going further, it is a way of experiential teaching and learning, and applying what was learned within a classroom or laboratory setting to problems of the real world. This paper assesses and certifies on the RSL programs being implemented in the curriculum at a Computer Science faculty of a public university in Malaysia. A preliminary survey and interview were conducted on multidisciplinary experts, management and lecturers of the university and consequently the authors propose a model of RSL which incorporates Teaching and Learning agenda of the faculty.

Keywords: Infrastructure; integration; Research Service-Learning (RSL); program implementation; curriculum

1. Introduction

Service Learning is a program where students utilize skills gained through coursework to benefit members of a community. Service Learning programs range from volunteer hours added as a requirement to a traditional course to dedicated semester or year-long classes. Students gain practical experience, and those being served gain valuable assistance. More specifically, research service-learning (RSL) is an approach that integrates concept of a particular theory in a classroom with a relevant community service context. This idea became popular in the early seventies, with the increasing awareness to provide value to the higher education development as classroom experience pushes the service to achieve educational goals (Sampson, 2003). According to the RSL concept, faculty seeks to enhance students' sense of social role and responsibility by having commitment to the greater

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skills, and less individualistic than traditional pedagogy. Furthermore, the roles and responsibilities are valued over personal responsibility and establish a learning synergy for the students whereby the university learning is valued along with community partners based on experiential learning which is inductively orientated.

This paper shall explore the issues, roles and responsibilities expected of a higher education institution in carrying out a research service-learning program to its undergraduate students. A model of RSL is proposed constituting the required principles in order to implement RSL in an academic setting which integrates into the curriculum run at a faculty of Computer Science at a public university in Malaysia.

2. Research Service Learning Philosophy (RSLP)

Research Service Learning **(**RSL) is a method involving students within community partners and it can also be defined as a combination of community partner's service and academic instruction with a focus on critical thinking, reflective thinking, and civic responsibility. Moreover, it is a way of academic development skills that encourages the development of personal skills particularly civic skills (Osborne, 1999). According to the Information and Communications technology (ICT) discipline, there is a need of preserving academic rigor as much as possible which must be balanced with a sense of engaging students with the others when they are doing comparison to other parts of experiential teaching and learning such as: internships, and cooperative education. In addition to that, the most different and distinguishing characteristic of RSLP is reciprocal and balanced emphasis on both student's teaching and learning and also addressing community needs (Osborne, 1999). It provides very strong opportunity to the students to obtain the behaviour of critical thinking and identifying the most important questions or problems that exist in the real-world.

Furthermore, RSLP allows educational institutions to have very good relationship with community partners and effective learning happens when the service performance have relation with the classroom education (Linda, 1999). Besides that, the people's acceptance of the service concept depends on the value of service they required and the capacity available to use for the service. However, it is a method of encouraging student's learning and improvement due to very clever participation in organized service that performed and meets the requirement of the community partners (Nazarene, 2007). The service receivers include governmental and non-governmental agencies, and all the different parts of the community that inspire the students to feel civic responsibility. It also enhances and integrates the academic curriculum towards the community needs which provides all participants to have the same enrolment. It also provides structured time for students or participants to reflect on the service experiences (Dominguez, 2000).

3. Research Service Learning in ICT

Based on ICT researches, there are a lot of published articles that addressed issues and problems in this area and how RSL has been incorporated into the ICT discipline (Jim, 2008) including: incorporating real-world issues into course learning objectives (Garcia, 2008), acquiring practical work experience, low students' interest and retention rates (Linda, 1999) enhancing students' communication skills, improving students' report writing skills, and teamwork. These needs arisen partially due to the facts that the field of ICT has traditionally been highly technical.

Most RSL has academic benefits when used effectively especially for improving the understanding of a course concept; however the implementation is different whereby some used it as a component of a regular class (Linda, 1999) and others used as one of the class rooms principles which include perhaps an hour a week being

involved at a program for which the teacher has made arrangements. And also some universities use RSL as one of their course; some does not believe that RSL can be part of the curriculum (Eyler, 1996).

Furthermore, others used RSL as course work which means it should have limited hours of RSL for each semester in each faculty and others have one time RSL for the whole study with limited time. In other cases, students will not be allowed to graduate until they participate in RSL activities within a scheduled period of time (Garcia, 2008). The course usually focuses on RSL contents and links it to the field of study in which each student has a part. There is a constant focus on the service being done as well as the learning that is happening along the way (Garcia, 2008).

3.1. Impact Of Research Service Learning

The main objective of RSL course is to provide students with practical learning experiences within their field of study, to provide a service to the community, including the campus community, and to do it with the resources available. In addition to that, there are advantages that the faculty will obtain upon the completion of the program and also students who are enrolled in RSL can contribute in more interesting and interactive discussions with the course members (Ferguson, 2004). It is also gratifying when such students share their epiphany and make connection from the concrete to the abstract with more direct, such as the chance to apply research theories through carefully designed RSL projects or to make contacts for future consulting (Garcia, 2008).

Furthermore, students learned more about communicating with supervisors and with each other. They learned about design systems and how to be flexible. They learned about writing reports and resumes, making PERT charts, teaching others, providing service to their community and making formal presentations. They learned about their ability to contribute and that the learning experience between partners and students is mutual. However, visibility and positive publicity lead to increase number of majors and enhance funding opportunities (Gray, 1999), and permits students to obtain such benefits eg: Self esteem, Empowerment, more responsible, moral development (values and beliefs), Exploration of new roles and interests, willingness to take risks and challenges, Intellectual Growth & Development, expressing ideas, reading and using technology, very good level of thinking skills like problem solving, critical thinking experience and specific problem to the knowledge, getting motivation to learn, Application of Observation knowledge, creativity and aesthetics, insight judgment, and knowledge (Eyler, 1996).

4. Methodology

With respect to the research process, a research methodology has been used in order to ensure the strategy of RSL model is feasible. Inputs are taken from academic staff, students and management staff who were entrusted to undertake such new strategic developments. Preliminary survey was conducted to choose the target respondents. The most important aim was to identify a probable effective Research Service Learning Model for the participating faculty including to give a guide (procedure) which will be used for the Implementation of the new activity.

An interview method have been chosen as the means for gathering of data due to the following reasons: Face-to-face interviews may be faster to conduct than questionnaire surveys because it is not important to include time to calculate for mail delivery and for the answers to turn their attention to the questionnaire. The main benefit is that they give you more chances to evaluate the respondents' concept and understand the questions and to specify any confusion that arises about the meaning of the question or the response. This method also provides avenues to present material to respondents and observe their reactions. Therefore, this model is derived partly from the

preliminary survey and interviews conducted from the university expertise and specifically focused on ICT students.

4.1. Data analysis

At the beginning, a preliminary survey was conducted for the selection of the interview respondents. Then, the interview was conducted with selected respondents of the Faculty of Computer Science & Information Systems (FSKSM) and university experts. Interviewed experts consist of the decision makers of FSKSM and university management: Deans, Deputy Deans, and Directors, Head of Departments, and lecturers who have RSL experience. The interview questions were designed into two sections. The first section was designed for understanding current situation of the Faculty, and the second section is about understanding how FSKSM can implement Research Service Learning Model in the undergraduate curriculum. Finally, the interview data with respect to different aspects were collected and responses were collected to the questions related to "How RSL can be implemented in FSKSM?"

The collected data were grouped and analyzed statistically. About seventy percent (70%) of the respondents agreed to the idea of restructuring the FSKSM curriculum to add two credits from the RSL. Their rationale is if the program is not worth any credits, students will not care to join the program, and the program will not be effectively successful. Conversely twenty percent (20%) of the interviewees did not agree with the idea. They believed that the current curriculum is already overloaded and by introducing a new course with credits will be a burden for students since RSL will be made compulsory. The third part of the interview saw ten percent (10%) of the respondents agreed to make the program optional where only students who are interested may attend the RSL. They too felt that if option is not given it will be an unnecessary pressure and difficulty to the students.

5. Model Of Research Service Learning

This model is a collection of methods and procedures that are designed to integrate Service-Learning activities into the Institution's curriculum. The implementation of Service-learning program in existing institutional curriculum requires completing the infrastructure of the curriculum first and it is very good to have an integration plan for the existing curriculum to the Service-Learning program, because the failure of the program implementation may cause the destruction of the whole life cycle of Institutional process of study. Certain steps can be introduced for university or faculty to consider:

1. Description of Service-Learning as an expressed goal and include the explanation of the nature of the Service placement,
2. Specify the roles and responsibilities of students in the placement of Service Learning projects,
3. Specify whether service Learning projects participation is mandatory. If it is mandatory, give students an alternative option in the different types of services offered to them
4. Include time requirements by describing how many credit hours per week (Eyler, 1996).
5. Specify the needs of the community that will be met through Service Learning placement
6. Specify how the course assignments link to the Service-Learning placement based on the course content;
7. Give details if appropriate, the expectations for the public dissemination of the students work
8. Prepare the program activities before the beginning of the semester
9. Do not allow student to do their own choice for program activities without getting approval from the university.
10. Try to conclude the program before end of the semester in order to get chance for the completion of the other programs. In order to evaluate the success of the program, it is important to analyse by looking at multiple perspectives.

This model supports service learning implementation on computer science undergraduate curriculum, and also provides on how the faculty handles the activities during service learning program. Further, the model has been validated with experts and lecturers at FSKSM and below is the proposed model which consists of four intindependent parts, such as infrastructure of the model, schedule, requirement and the outcome of the program.

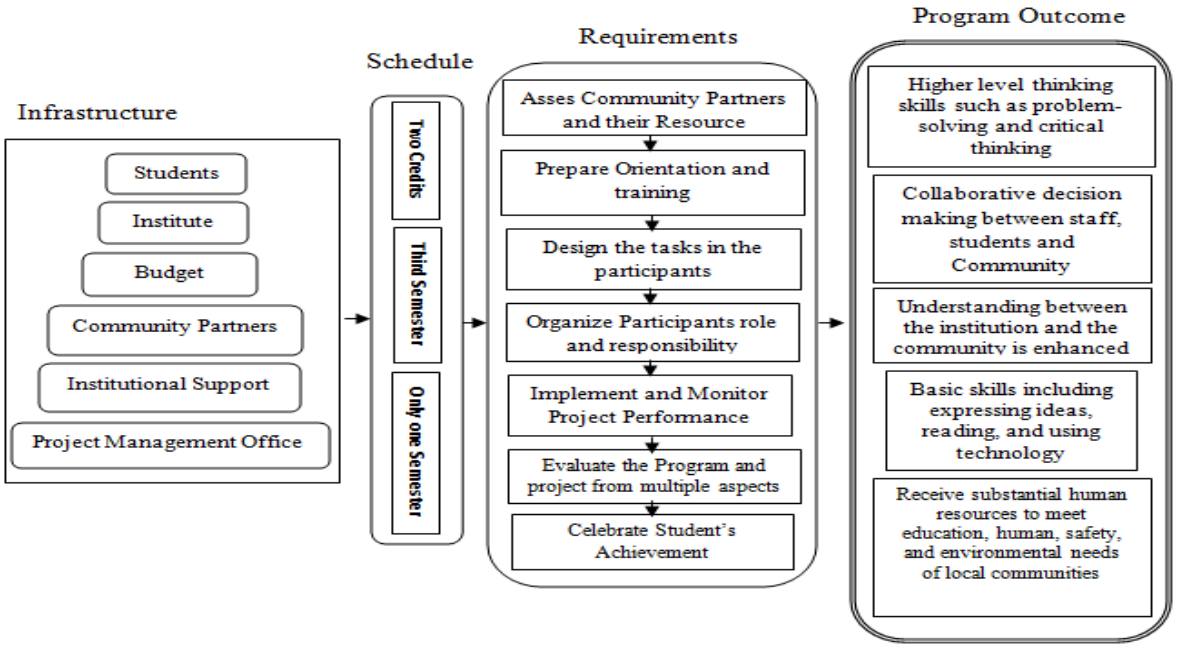

Fig. 1. Service-Learning Model

5.1. Infrastructure

The first part is the infrastructure of the program; it is the main part of the program which contains the factors that the program is based on, such as Students, Institution, Budget, Community Partners, Institutional support, and Project management Office (PMO). Each one of the participants has specific role and responsibilities for the program performance. For example, Students have the most important role in the program; they are the active factor who conducts the Community Partners problems and solving it. The Institute also has to organize the program, by creating relationship with the community partners, and provides orientation to the both Students and Community Partners, defining them the mission vision, value, attributes, and strategy of the program, and gives any support required for success of the program. On the other hand, community Partners is also one of the Stakeholders of the program which is the receiver of the service; their role is to give support to the students on the communities behavior and environmental issues. Additionally the Project Management Office (PMO) is a mediator between the Institute and community partners. It is recommended to organize the project tasks by defining the scope, time, budget, resources and other necessary activities for the program performance. Whenever the community partners need to share some problems with the Institute they contact directly to the Project Management Office (PMO) and submit their problem to it and the Office will organize RSL program based on the submitted problems.

5.2. Schedule

To prepare number of credits can be added to the curriculum, and where to add is important. Then the institute evaluates the current curriculum weather it is overloaded or not; if not the curriculum can be increased up to 3 credit-hours per week in the beginning, then when it becomes stable, depending on the Institute to increase the credits by looking at the community requirements and students interest for the program. However, since the current curriculum is overloaded it is important to offer it as a 2 credit-hour per week, because more than 2 credits hours, student may lose other requirements of the course.

5.3. Requirements

The institute should develop the schedule of the program based upon the community partner's requirements and resources available first. These requirements, will give the institute ability to know more about the community partners, such as community culture, environmental issues, and community problems. When the Institute gets the information from the community, and also their needs, the Institute analyses the assessment report and feeds into its resource to adjust the work needed to perform and resources available and give orientation to the students and Community Partners. Base on that, the institute develops work break down structure of the program, by defining the role and responsibility of the participants and how the program performance will look like.

More specifically, the PMO must give an orientation about RSL to the community partners through a meeting or community gathering ideally during breakfast or lunch time in view of the tight schedule of the community partners. This event will allow the community partners to network with one another as well as obtain detailed information about the module. In addition to that, to implement and monitor the program performance is important and also to formalize the basis of the implementation is the essential part of the program success (Aaron, 2007). The rules, roles and procedures need to be applied and the degree of formalization will determine the extent of investment of resources and exchanges among partners. Additionally, monitoring and improving of the program is also important for the program performance. A standard service level agreement format can be used as the template for discussion.

Further, evaluate the program implementation and it's stability of integration into the curriculum. All the partners involved in the project can be valuable source of information to the program. The consultation and reflection with everybody involved can provide ideas on how to improve the next round of implementation. Furthermore, the evaluators use the evaluation process by looking at multiple areas, such as experiences gained, subject understood, level of collaborations and preparation of every project. Completion must be awarded with a closing ceremony to encourage the students for the community service, and convert their theoretical understanding into practical experience. During the celebration, presentations (or any other action of care, appreciation and recognition) it is important to capture experiences of every RSL. Hence, service students get the opportunity to share what they have learned, and gained their finished projects, as well as the products they have produced (Dosen, 2006). This allows students to share with their classmates what they have been working and provide closure for all the participants. It is important to make sure to involve all the partners of the project in these celebrations. Consider inviting other members of the Institution's administration and community to share the successes. (This celebration day could also form part of summative assessment). During presentations, lecturer or coordinator will mark them based on their achievements. Therefore, in order to make RSL a successful venture it is essential to look at multiple aspects.

5.4. Outcome

When the Service program is completed, all the participants are expected to gain some outcomes. For example, Students gain from the program participation, real hands-on both cognitive and generic skills such as: understanding, communicating, appreciating and civic participation, application of knowledge, empowerment, more responsible, moral development (values and beliefs), exploration of new roles and interests, willingness to take risks and challenges, basic skills including expressing ideas, reading, and using technology, higher level thinking skills such as problem-solving and critical thinking, abbreviations, creativity and aesthetics, insights, judgments and knowledge (Dominguez, 2000) .

institute also gain from the service collaborative decision making between staff, students and community partners, more involvement from local community, increase number of scholarships, increased school pride and sense of community, increase number of grant projects, more positive student behaviour, overall increase in student academic achievement, teachers are more motivated to teach. Likewise, the community gets a lot of advantages from the program like: community service needs are met, understanding between the institution and the community is enhanced, valuable service to meet community need, community use universities as resources, empowerment-community's partnership, positive relationship built with community; community uses students as resources, meaningful community involvement with service performance, receive substantial human resources to meet education, human, safety, and environmental needs of local communities.

6. Conclusion

The integration of RSL with the existing curriculum is one of the most challenged works in the academic management. To apply RSL program into the normal teaching and learning system is quite difficult. Normally, whenever new things are implemented into existing system, there will be challenges and difficulty, however, this model facilitates how RSL can be integrated with existing curriculum. Further, lecturers have a sound theoretical and conceptual meaning of the RSL, and also have values and ideas of teaching and learning. Besides that, lecturers are required to enhance students' sense of social skills and these skills are valued over individual responsibility, and initiates learning synergy for the students, whereby the faculty or university learning is evaluated along with community partners based on lessons learned, which is inductively orientated. Therefore, this approach allows the academic institute to implement RSL program into their curriculum easily and provides significant method of RSL participation to the students in ICT to participate RSL activities successfully.

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